

**§ 139.307 Unpaved areas.**

(a) Each certificate holder shall maintain and promptly repair the surface of each gravel, turf, or other unpaved runway, taxiway, or loading ramp and parking area on the airport which is available for air carrier use as follows:

(1) No slope from the edge of the full-strength surfaces downward to the existing terrain shall be steeper than 2:1.

(2) The full-strength surfaces shall have adequate crown or grade to assure sufficient drainage to prevent ponding.

(3) The full-strength surfaces shall be adequately compacted and sufficiently stable to prevent rutting by aircraft, or the loosening or buildup of surface material which could impair directional control of aircraft or drainage.

(4) The full-strength surfaces must have no holes or depressions which exceed 3 inches in depth and are of a breadth capable of impairing directional control or causing damage to an aircraft.

(5) Debris and foreign objects shall be promptly removed from the surface.

(b) Standards and procedures for the maintenance and configuration of unpaved full-strength surfaces shall be included in the airport certification manual or the airport certification specifications, as appropriate, for compliance with this section.

**§ 139.309 Safety areas.**

(a) To the extent practicable, each certificate holder shall provide and maintain for each runway and taxiway which is available for air carrier use—

(1) If the runway or taxiway had a safety area on December 31, 1987, and if no reconstruction or significant expansion of the runway or taxiway was begun on or after January 1, 1988, a safety area of at least the dimensions that existed on December 31, 1987; or

(2) If construction, reconstruction, or significant expansion of the runway or taxiway began on or after January 1, 1988, a safety area which conforms to the dimensions acceptable to the Administrator at the time construction, reconstruction, or expansion began.

(b) Each certificate holder shall maintain its safety areas as follows:

(1) Each safety area shall be cleared and graded, and have no potentially

hazardous ruts, humps, depressions, or other surface variations.

(2) Each safety area shall be drained by grading or storm sewers to prevent water accumulation.

(3) Each safety area shall be capable under dry conditions of supporting snow removal equipment, and aircraft rescue and firefighting equipment, and supporting the occasional passage of aircraft without causing major damage to the aircraft.

(4) No object may be located in any safety area, except for objects that need to be located in a safety area because of their function. These objects shall be constructed, to the extent practical, on frangibly mounted structures of the lowest practical height with the frangible point no higher than 3 inches above grade.

(c) FAA Advisory Circulars in the 150 series contain standards and procedures for the configuration and maintenance of safety areas acceptable to the Administrator.

**§ 139.311 Marking and lighting.**

(a) Each certificate holder shall provide and maintain at least the following marking systems for air carrier operations on the airport:

(1) Runway markings meeting the specifications for the approach with the lowest minimums authorized for each runway.

(2) Taxiway centerline and edge markings.

(3) Signs identifying taxiing routes on the movement area.

(4) Runway holding position markings and signs.

(5) ILS critical area markings and signs.

(b) Each certificate holder shall provide and maintain, when the airport is open during hours of darkness or during conditions below VFR minimums, at least the following lighting systems for air carrier operations on the airport:

(1) Runway lighting meeting the specifications for the approach with the lowest minimums authorized for each runway.

(2) One of the following taxiway lighting systems:

(i) Centerline lights.

(ii) Centerline reflectors.